

and they have concerts, theatrical soirées and the use of a library of 4,000 volumes and numerous journals and reviews. There are 200 women nurses and 40 male nurses to care for 1,379 patients. There is a school for nurses initiated by Dr. Van Deventer, assisted by Mme Van Deventer, comprising a three-years' course, terminating by an examination, which gives the right to a diploma.

Women nurses for men.—"Convinced moreover that women possess to a degree much more developed than men the qualities necessary in the care of patients, Dr. V. D. has substituted female for male nurses in the care of men. This substitution commenced ten years ago, has given such satisfactory results that it has little by little become general so that now there are scarcely any but women in the male wards, the male nurses being almost exclusively reserved for domestic labors. Add that to carry out this experiment the director has not deemed it necessary, as some are perhaps inclined to think, to employ only the mature or aged; many of the female nurses that we saw are young, wearing a becoming costume, adorned with insignia of their grade and uniting to the charm of their intelligence that of their person." In conclusion, the author says: "But what is worth special mention is the preponderating roll which they have not feared to reserve for young women in the treatment of the insane. It is a very happy application of the celebrated expressions of Dr. Pinel—considered perhaps a little platonic—that as to an 'insane patient' we help him with *indifference* (without showing any sentimental preference of one to another). In a note the editor says: 'This reform counts in France numerous partisans amongst alienists and the administration does not appear to be hostile to it; we hope then soon to see the experiment made in our country.'"

MR. RICHARDS (Amityville.)

MISCELLANY

MOTOR INNERVATION OF CAPILLARIES. R. H. KAHN and E. STEINACH (Pflüger's Archiv, June 26, 1903).

Nearly forty years ago, according to E. Steinach and R. H. Kahn, Stricker established the fact that the finest ramifications of the vascular system are not of a constant diameter but are capable of varying their lumen, not as the result of changes in the blood pressure but as the result of vital changes in their walls. These variations were attributed by Golubew not to a true contractility of the capillary wall, but to the presence or absence of tumefaction of the spindle-cells of the endothelium, the size of the lumen diminishing with the increase in thickness of the capillary wall as the result of this tumefaction. On the other hand, Rouget, and, later, Mayer discovered in the capillary wall many oval spider-like cells which they considered as closely related to the smooth-muscle cells of the arterioles and larger vessels, and to whose contraction they attributed the narrowing of the capillary lumen. In view of these two diametrically opposed hypotheses of the origin of the narrowing of the capillary lumen, Steinach and Kahn were led to investigate whether or not this phenomenon is the expression of a genuine contractility of the capillaries, of the same nature as that possessed by the larger vessels. The results of their researches answered this question in the affirmative. They studied the nictitating and peri-esophageal membranes of the frog and the omentum of kittens and guinea-pigs, and found that when these structures were stimulated by induced electrical shocks, the capillaries, observed under the microscope, responded by means of distinct contractions. There was a diminution not only of the lumen but also of the entire cross-section of the capillary. With maximal stimuli this con-

striction was so great as to obliterate entirely the lumen. The contraction of the capillary was accomplished by the appearance of longitudinal folds or wrinkles in the endothelium, which were more distinct the greater the contraction and which disappeared upon the dilatation of the capillary. Moreover, the degree of this contractility was not uniform in all capillaries nor in all portions of the same capillary; certain capillaries and certain parts of an individual capillary contracting in the same way and to the same degree on repeated stimulation, while other capillaries and capillary-districts did not respond at all. These results have only one interpretation, namely, the possession by the capillary of a true contractile power which resides in the branching cells present in its wall, a power capable of causing complete obliteration of the lumen. The latent period of this contraction amounts to from one to three seconds and the dilatation lasts a longer time than the contraction. The interrupted current only is capable of eliciting this phenomenon, single shocks even of great intensity having no effect. In studying the motor innervation of the capillaries, the authors found that on stimulation of the peripheral stump of the cervical sympathetic, genuine capillary contractions resulted, the same as those following direct stimulation of the capillaries themselves. The latent period by indirect as well as by direct stimulation is greater than in the case of the small arteries, an effect which must be attributed to the peculiar physiological properties of the contractile elements of the capillary wall. The authors also discovered in the capillaries the tendency to a rhythmical contraction. In discussing the functional significance of capillary contraction, they find that it is able, when brought about by the nervous mechanism, to aid in the regulation of the vascularity of the organs or of different positions of a single organ, in conjunction with or independent of the smaller arteries. Furthermore the constriction of the capillaries would increase the pressure of the blood contained within them, and thus, by favoring the filtration of the lymph, would promote the nutritive changes in the tissues, and possibly arouse certain chemical processes which would otherwise remain dormant. The secretion of urine and other processes in which variations in filtration-pressure come into play, are to be thought of in connection with the significance of capillary-contraction.

JELLIFFE.

METABOLISM IN EPILEPSY. G. Sala and O. Rossi (*Gazz. med. Lombarda*, Aug. 16, 1903).

Impressed with the contradictory results reported from analysis of the urine of epileptics, these observers undertook the study of the urine during a period of from one and a half to two months in each of five epileptic patients; examinations of a given quantity of the urine eliminated during twenty-four hours being made daily. The diet was so regulated in each case as to establish metabolic equilibrium. The authors tabulate their findings as follows: (1) The quantity of urine was normal in the majority of cases; (2) the color varied from straw-color to golden; (3) the specific gravity was always high, even when an increased quantity of urine was eliminated; (4) acidity was normal, or slightly below normal; (5) phosphoric acid varied within normal limits; (6) the amount of urea corresponded to that considered as medium by authors in general, but it was less than that which should have been eliminated with the diet given; (7) the quantity of chlorides was generally above the normal, though at times it reached the normal. No connection was apparent between the variations in these elements of the urine and the occurrence of epileptic seizures. An increase in indican was always seen the day following a seizure. Not the faintest trace of albumin was found after an epileptic seizure, whether this was repeated or not.

JELLIFFE.